

11) determining a production quantity of said good based on said predicted future demand; and

determining required quantities of raw materials required for manufacturing the production quantity of said good.

34. The method of Claim 33, wherein said step of receiving sales information further comprises receiving data from a plurality of point-of-sales terminal units through a communication network.

35. The method of Claim 33, wherein said step of estimating a total number of units further comprises:

calculating a ratio of total number of units purchased by all said retail outlets over a preceding period of time and total number of units purchased by said sample number of retail outlets;

estimating a deviation factor; and

multiplying said actual number of units sold, said ratio, and said deviation factor together.

36. The method of Claim 35, wherein said step of estimating a deviation factor further comprises considering at least one of a product classification, a price classification, a consumer age classification, and a merchandising classification.

37. The method of Claim 33, wherein said step of predicting future demand further comprises:

receiving periodic updates of said estimated total number of units;

selecting a demand forecast data table according to an elapsed amount of time since initial launch of said good;

identifying a sales pattern from said demand forecast data table corresponding to said periodic updates of said estimated total number of units; and

calculating said future demand based on said identified sales pattern.

38. The method of Claim 37, wherein said step of selecting a demand forecast data table further comprises selecting between a first demand forecast data table comprising data corresponding to a first predetermined period of time following said initial launch and a second demand forecast data table comprising data corresponding to a second predetermined period of time following said initial launch.

39. The method of Claim 37, wherein said step of identifying a sales pattern further comprises matching an actual sales pattern derived from said periodic updates of said estimated total number of units to one of plural historic sales patterns stored in said demand forecast data table.

40. The method of Claim 33, wherein said step of determining a production quantity further comprises:

retrieving an inventory quantity for said good and past additional production request quantity for said good from an inventory data table;

calculating a required size of additional production of said good by subtracting said inventory quantity and said past additional production request quantity from said future demand; and

updating said past additional production request quantity to reflect said calculated required size of additional production.

41. The method of Claim 33, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least order backlog quantities comprising quantities of raw materials for which an order has been sent to a raw materials supplier and the raw materials supplier has acknowledged receipt of the order.

42. The method of Claim 41, further comprising modifying order backlog raw materials quantities based on order acknowledgement information received from a raw materials supplier confirming receipt of ordered quantities of raw materials.

43. The method of Claim 41, further comprising modifying the required quantities of raw materials based on acceptance information received from a raw materials supplier confirming receipt of ordered quantities of raw materials and modifying said production quantity based on quantities of finished goods.

44. The method of Claim 33, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least in-process order quantities comprising quantities of raw materials for which an order has been sent to a raw materials supplier and the raw materials supplier has not acknowledged receipt of the order nor has confirmed ability to deliver the raw materials requested.

45. The method of Claim 33, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least one of information regarding type and quantity of raw materials, information regarding assembling and processing steps for manufacturing said good, and information regarding the launching dates of competitive products.

46. The method of Claim 45, wherein said step of determining required quantities of raw materials includes the step of placing orders for raw materials in a sequence determined by said assembling and processing steps for manufacturing said good.

47. The method of Claim 40, wherein said step of determining required quantities of raw materials further comprises determining required quantities of constituent raw materials for producing a single unit of said good, and multiplying the

e1) required quantities of constituent raw materials by the required size of additional production.

48. The method of Claim 47, wherein said step of determining required quantities of raw materials further comprises determining a current raw materials inventory volume.

49. The method of Claim 48, wherein said step of determining required quantities of raw materials further comprises determining a magnitude of excess or shortage for each said constituent raw material for a subsequent period of time based on said current raw materials inventory volume.

50. The method of Claim 33, further comprising the step of manufacturing the production quantity of said good.

51. The method of Claim 50, wherein said manufacturing step further comprises:

selecting output values for respective drive units from a drive unit output data table; and

transmitting said selected output values to said respective drive units.

52. An apparatus for controlling production of manufactured goods comprising a processor and a memory containing a stored program, the stored program causing said processor to perform the steps of:

receiving data identifying actual number of units sold of a good by a sample number of retail outlets;

estimating a total number of units of said good sold for all retail outlets by scaling-up said received data;

predicting future demand for said good based on said estimated total number of units of said good sold;

61) determining a production quantity of said good based on said predicted future demand; and

determining required quantities of raw materials required for manufacturing the production quantity of said good.

53. The apparatus of Claim 52, wherein said apparatus is coupled to a plurality of point-of-sales terminal units through a communication network, and said step of receiving sales information further comprises receiving data from said plurality of point-of-sales terminal units.

54. The apparatus of Claim 52, wherein said step of estimating a total number of units further comprises:

calculating a ratio of total number of units purchased by all said retail outlets over a preceding period of time and total number of units purchased by said sample number of retail outlets;

estimating a deviation factor; and

multiplying said actual number of units sold, said ratio, and said deviation factor together.

55. The apparatus of Claim 52, wherein said memory further comprises a product characteristic data table containing at least one of product classification data, price classification data, consumer age classification data, and merchandising classification data.

56. The apparatus of Claim 52, wherein said memory further comprises a demand forecast data table containing plural sales course patterns including at least first plural patterns corresponding to a first predetermined period of time following product launch and second plural patterns corresponding to a second predetermined period of time following said first predetermined period of time.

57. The apparatus of Claim 56, wherein said step of predicting future demand further comprises:

- receiving periodic updates of said estimated total number of units;
- identifying a sales pattern from said demand forecast data table corresponding to said periodic updates of said estimated total number of units and according to an elapsed amount of time since said product launch of said good; and
- calculating said future demand based on said identified sales pattern.

58. The apparatus of Claim 57, wherein said step of identifying a sales pattern further comprises matching an actual sales pattern derived from said periodic updates of said estimated total number of units to one of said first and second plural patterns stored in said demand forecast data table.

59. The apparatus of Claim 52, wherein said memory further comprises an inventory data table containing at least inventory quantity data and past additional production request quantity data.

60. The apparatus of Claim 59, wherein said step of determining a production quantity further comprises:

- retrieving an inventory quantity for said good and past additional production request quantity for said good from said inventory data table;
- calculating a required size of additional production of said good by subtracting said inventory quantity and said past additional production request quantity from said future demand; and
- updating said past additional production request quantity to reflect said calculated required size of additional production.

61. The apparatus of Claim 52, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least order backlog quantities comprising quantities of raw materials for

e) which an order has been sent to a raw materials supplier and the raw materials supplier has acknowledged receipt of the order.

62. The apparatus of Claim 52, further comprising modifying order backlog raw materials quantities based on order acknowledgement information received from a raw materials supplier confirming receipt of ordered quantities of raw materials.

63. The apparatus of Claim 52, further comprising modifying the required quantities of raw materials based on acceptance information received from a raw materials supplier confirming receipt of ordered quantities of raw materials and modifying said production quantity based on quantities of finished goods.

64. The apparatus of Claim 52, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least in-process order quantities comprising quantities of raw materials for which an order has been sent to a raw materials supplier and the raw materials supplier has not acknowledged receipt of the order nor has confirmed ability to deliver the raw materials requested.

65. The apparatus of Claim 52, wherein said memory further comprises a raw material data table storing at least one of raw materials quantity data, raw materials inventory data, and raw materials acceptance schedule data.

66. The apparatus of Claim 52, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least one of information regarding type and quantity of raw materials, information regarding assembling and processing steps for manufacturing said good, and information regarding the launching dates of competitive products.

61/ 67. The apparatus of Claim 52, wherein said step of determining required quantities of raw materials includes the step of placing orders for raw materials in a sequence determined by said assembling and processing steps for manufacturing said good.

68. The apparatus of Claim 60, wherein said step of determining required quantities of raw materials further comprises determining required quantities of constituent raw materials for producing a single unit of said good, and multiplying the required quantities of constituent raw materials by the required size of additional production.

69. The apparatus of Claim 68, wherein said step of determining required quantities of raw materials further comprises determining a current raw materials inventory volume.

70. The apparatus of Claim 69, wherein said step of determining required quantities of raw materials further comprises determining a magnitude of excess or shortage for each said constituent raw material for a subsequent period of time based on said current raw materials inventory volume.

71. The apparatus of Claim 52, further comprising the step of manufacturing the production quantity of said good.

72. The apparatus of Claim 71, wherein said memory further comprises a drive unit output data table storing output values for respective drive units of a production line.

73. The apparatus of Claim 72, wherein said manufacturing step further comprises: